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(54) Title: COMPOSITE STRUCTURE

(57) Abstract: A composite structure comprises a dual-function material intermediate a conducting material and a semiconductor. The dual-function material comprises an organic material and at least one ionic species such that the organic material has both electronic charge transport properties and supports or chelates the at least one ionic species. The conducting material comprises an ohmic conductor, a semiconducting material or an ionic conductor. The composite structures are suitable for use in electro-chemical devices such as photo-voltaic cells, photodiodes, batteries, electrodes, electrochromic devices and light-emitting diodes.

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